

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims:

Claim 1 (Currently amended): A method for noise variance estimation of a detected signal, the method comprising:

receiving a wireless signal and producing therefrom in, from an input of the received wireless signal to a detector, a detected signal, wherein the detected signal is an output from the detector;

producing, from the received wireless signal, a first noise variance signal representative of noise variance in the received wireless signal; and

producing, from the detected signal and the first noise variance signal, a second noise variance signal representative of noise variance estimation of the detector in the received signal.

Claim 2 (Previously presented): The method of claim 1, wherein the producing the second noise variance signal comprises applying a function equal to a transfer function of the detector to the first noise variance signal.

Claim 3 (Currently amended): The method of claim 1, wherein the producing the first noise variance signal comprises deriving the first noise variance signal from a midamble portion of the received wireless signal.

Claim 4 (Currently amended): The method of claim 1, further comprising:  
producing from the second noise variance signal and an estimate of total power at the detector output a signal-to-interference ratio (SIR) signal representative of SIR in the received wireless signal.

Claim 5 (Previously presented): The method of claim 1, wherein the detector is a CDMA multi-user detector.

Claim 6 (Previously presented): The method of claim 1, wherein the detector is a CDMA single-user detector.

Claim 7 (Previously presented): The method of claim 1, wherein the detector comprises a CDMA RAKE receiver.

Claim 8 (Cancelled)

Claim 9 (Currently amended): The method of claim 1[[8]], wherein the wireless signal is a UMTS air interface signal.

Claim 10 (Currently amended): A user equipment capable of noise variance estimation of a detected signal, the user equipment comprising:

a detector for receiving a wireless signal and ~~detecting~~ outputting from an input of the received wireless signal, therein a detected signal;

first noise variance logic for producing, from the received wireless signal, a first noise variance signal representative of noise variance in the received wireless signal; and

second noise variance logic for producing, from the detected signal and the first noise variance signal, a second noise variance signal representative of noise variance estimation of the detector in the received signal.

Claim 11 (Previously presented): The user equipment of claim 10, wherein the second noise variance logic is operable to apply a function equal to a transfer function of the detector to the first noise variance signal to produce the second noise variance signal.

Claim 12 (Currently amended): The user equipment of claim 10, wherein the first noise variance logic is operable to derive the first noise variance signal from a midamble portion of the received wireless signal.

Claim 13 (Currently amended): The user equipment of claim 10, further comprising:

signal-to-interference ratio (SIR) estimation logic for producing from the second noise variance signal and an estimate of total power at the detector output an SIR signal representative of SIR in the received wireless signal.

Claim 14 (Previously presented): The user equipment of claim 10, wherein the detector is a CDMA multi-user detector.

Claim 15 (Previously presented): The user equipment of claim 10, wherein the detector is a CDMA single-user detector.

Claim 16 (Previously presented): The user equipment of claim 10, wherein the detector comprises a CDMA RAKE receiver.

Claim 17 (Cancelled)

Claim 18 (Currently amended): The user equipment of claim 10, wherein the received wireless signal is a UMTS air interface signal.

Claim 19-25 (Cancelled)

Claim 26 (Currently amended): A base station capable of noise variance estimation of a detected signal, the base station comprising:

a detector for receiving a wireless signal and ~~detecting outputting, from an input of the received wireless signal, therein~~ a detected signal;

first noise variance logic for producing, from the received wireless signal, a first noise variance signal representative of noise variance in the received wireless signal; and

second noise variance logic for producing, from the detected signal and the first noise variance signal, a second noise variance signal representative of noise variance estimation of the detector in the received signal.

Claim 27 (Previously presented): The base station of claim 26, wherein the second noise variance logic is operable to apply a function equal to a transfer function of the detector to the first noise variance signal to produce the second noise variance signal.

Claim 28 (Currently amended): The base station of claim 26, wherein the first noise variance logic is operable to derive the first noise variance signal from a midamble portion of the received wireless signal.

Claim 29 (Currently amended): The base station of claim 26, further comprising:

SIR estimation logic for producing from second noise variance signal and an estimate of total power at the detector output an SIR signal representative of SIR in the received wireless signal.

Claim 30 (Previously presented): The base station of claim 26, wherein the detector is a CDMA multi-user detector.

Claim 31 (Previously presented): The base station of claim 26, wherein the detector is a CDMA single-user detector.

Claim 32 (Previously presented): The base station of claim 26, wherein the detector comprises a CDMA RAKE receiver.

Claim 33 (Currently amended): The base station of claim 26, wherein the received wireless signal is a UMTS air interface signal.

Claim 34 (Currently amended): A user equipment comprising:  
a memory;  
a processor coupled to the memory; and  
program code executable on the processor, the program code operable for:  
receiving a wireless signal and producing therefrom in , from an input of the received wireless signal to a detector, a detected signal, wherein the detected signal is an output from the detector;

producing, from the received wireless signal, a first noise variance signal representative of noise variance in the received wireless signal; and

producing, from the detected signal and the first noise variance signal, a second noise variance signal representative of noise variance estimation of the detector in the received signal.

Claim 35 (Currently amended): A base station comprising:

- a memory;
- a processor coupled to the memory; and
- program code executable on the processor, the program code operable for:
  - receiving a wireless signal and producing therefrom in from an input of the received wireless signal to a detector, a detected signal, wherein the detected signal is an output from the detector;
  - producing from the received wireless signal, a first noise variance signal representative of noise variance in the received wireless signal; and
  - producing from the detected signal and the first noise variance signal, a second noise variance signal representative of noise variance estimation of the detector in the received signal.

Claim 36 (Currently amended): A computer-readable medium encoded with executable instructions for noise variance estimation of a detected signal, the instructions comprising instructions for:

receiving a wireless signal and producing therefrom in from an input of the received wireless signal to a detector, a detected signal, wherein the detected signal is an output from the detector;

producing from the received wireless signal, a first noise variance signal representative of noise variance in the received wireless signal; and

producing from the detected signal and the first noise variance signal, a second noise variance signal representative of noise variance estimation of the detector in the received signal.

Claim 37 (Previously presented): The computer-readable medium of claim 36, wherein the instructions are further for:

applying a function equal to a transfer function of the detector to the first noise variance signal.

Claim 38 (Currently amended): The computer-readable medium of claim 36, wherein the instructions are further for deriving the first noise variance signal from a midamble portion of the received wireless signal.

Claim 39 (Currently amended): The computer-readable medium of claim 36, wherein the instructions are further for producing from the second noise variance signal and an estimate of total power at the detector output an SIR signal representative of SIR in the received wireless signal.

Claim 40 (Currently amended): A communication system configured to provide for noise variance estimation of a detected signal, the communication system comprising:

a detector for receiving a wireless signal and ~~detecting outputting from an input of the received wireless signal, therein~~ a detected signal;

first noise variance logic for producing, from the received wireless signal, a first noise variance signal representative of noise variance in the received wireless signal; and

second noise variance logic for producing, from the detected signal and the first noise variance signal, a second noise variance signal representative of noise variance estimation of the detector in the received signal.

Claim 41 (Currently amended): An integrated circuit for receiving a signal and detecting therein a detected signal, the integrated circuit comprising:

first noise variance logic means or producing, from the received wireless signal, a first noise variance signal representative of noise variance in the received wireless signal; and

second noise variance logic means for producing, from the detected signal and the first noise variance signal, a second noise variance signal representative of noise variance estimation of the detector in the received signal.